

THE ZOOLOGIST

No. 748.—October, 1903.

MIGRATION OF BIRDS IN N.E. LINCOLNSHIRE DURING THE AUTUMN OF 1902.

BY G. H. CATON HAIGH.

THE cloudy and unsettled autumn of 1902 was on the whole favourable to migration. The prevailing winds were easterly or north-easterly, usually very light, and often accompanied with fine rain.

Birds came in steadily and evenly throughout the autumn, and nothing approaching a "rush" took place. The periods at which the most important movements occurred were Sept. 8th to 11th, 20th to 24th, and especially Oct. 6th to 11th; while there was an exceedingly large immigration of wildfowl into the Humber on Nov. 30th and Dec. 1st, and immense numbers of Wood-Pigeons came in during the last fortnight of the year. Waders of all sorts, except Curlews and Peewits, were extremely scarce.

As is usually the case in a season in which easterly winds prevail, several of our rarer birds appeared—for example, the Black Redstart, Barred Warbler, Shore-Lark, White-tailed Eagle, Honey-Buzzard, Bittern, Great Bustard, and Spotted Redshank.

On the other hand, a few birds which one expects to meet with annually were either absent or very scarce, such as the Garden-Warbler, Grey Shrike, Goldfinch, and Long-eared Owl.

Turdus viscivorus. Mistle-Thrush. — A large flock in a turnip-field near the coast at North Cotes on Sept. 1st. This species was very abundant in the coast districts throughout the autumn.

T. musicus. Song-Thrush. — A good many Thrushes in turnips near the coast on Sept. 1st. Large numbers again present on 12th and 19th, and especially from Sept. 30th to Oct. 8th.

T. iliacus. Redwing. — This was a great Redwing year. One or two appeared on Oct. 9th, a few more on the 10th, and from that date till Nov. 10th the species steadily increased, the largest arrivals taking place on Oct. 11th, 16th, and 24th.

T. pilaris. Fieldfare. — The Fieldfare was somewhat late in its appearance. I saw three or four at Brigsley on Nov. 7th, and about a dozen on the coast on 15th. On Dec. 4th, with a light fall of snow, a few were passing north over Grainsby, and they were very abundant in the hedges near the coast. On Dec. 23rd a few were coming in from the sea, and I saw a flock of quite a thousand assembled on a piece of grass-land known as North Cotes "100 acre."

T. merula. Blackbird. — The first arrival of Blackbirds took place on Sept. 20th, and a larger number, consisting mostly of young cocks, came in on the 22nd. A further immigration took place on Oct. 6th to 9th, those coming in on the first-named day being principally young cocks, with a few old cocks; while on the following day old and young birds of both sexes were present. On Oct. 24th and 25th Blackbirds were again abundant on the coast, almost all being old birds. The last noticeable passage occurred on Nov. 15th.

T. torquatus. Ring-Ouzel. — Very scarce; I saw two in hedges near the sea at North Cotes on Oct. 6th.

Saxicola oenanthe. Wheatear. — A few Wheatears appeared on the sea-bank on Aug. 8th. On 30th I saw a flock of about a dozen perching on the sea-bank and on an adjoining hedge. Wheatears were again fairly numerous on Sept. 13th.

Pratincola rubetra. Whinchat. — A few in the vicinity of the coast on Sept. 1st. I noted single birds on 11th, 22nd, and 24th.

P. rubicola. Stonechat. — A single Stonechat—the only one

seen during the autumn—in a hedge near the sea at Marsh-chapel on Sept. 24th.

Ruticilla phœnicurus. Redstart.—The first Redstart appeared on Sept. 2nd, and from that date to Oct. 11th the species was always present in the vicinity of the coast in small numbers, except on Sept. 8th, when it was fairly numerous.

R. titys. Black Redstart.—On Oct. 10th I shot a bird of this species from the roof of a brick shed near the sea-bank at North Cotes. It was a young bird in the uniform dark grey plumage. I saw a few Common Redstarts on the same day.

Erithacus rubecula. Redbreast.—The first Robins arrived on the coast on Sept. 20th and 22nd, but the principal movement occurred from Oct. 6th to 11th, when they were extremely abundant. They remained, but in decreasing numbers, up to the 18th, after which few were seen.

Sylvia cinerea. Whitethroat.—The passage of this species commenced on Aug. 30th, and continued until Sept. 11th, being most pronounced about the latter date. A very few individuals remained to Sept. 20th, and I saw a single straggler on Oct. 8th.

S. curruca. Lesser Whitethroat.—A few individuals of this species appeared on the coast as early as Aug. 15th, and occasional examples continued to come in up to Oct. 8th, but I never saw more than one or two in a day.

S. atricapilla. Blackcap.—I shot a young male of this species close to the sea-bank at North Cotes on Oct. 11th. The only example seen during the autumn.

S. nisoria. Barred Warbler.—On Sept. 20th I shot a young female of this Warbler at North Cotes. A light easterly wind had been blowing for about twenty-four hours, with fine weather. Many small birds were present on the coast, including numerous Pied Flycatchers. This is the third Lincolnshire example.

Regulus cristatus. Goldcrest.—A good many Goldcrests arrived on the coast on Oct. 6th, and a few were present until the 11th, but the passage was much shorter, and the birds scarcer than usual.

Phylloscopus rufus. Chiffchaff.—A single bird shot in a thorn-bush close to the North Cotes sea-bank on Oct. 6th was the only Chiffchaff seen during the autumn.

P. trochilus. Willow-Wren.—Willow-Wrens were present on the coast in small numbers from Aug. 25th to Sept. 19th, and subsequently two immature birds appeared on Oct. 6th.

Acrocephalus sp. ?—On Sept. 20th I shot a Warbler in a hedge at North Cotes which exactly resembled a Reed-Warbler, except that the legs and feet were bright bluish green, inclining to yellowish green at the joints and soles of the feet. The hedge was a considerable distance from any reed-bed.

Accentor modularis. Hedge-Sparrow.—Hedge-Sparrows appeared on the coast in great numbers on Sept. 19th, 20th, and 22nd.

Parus major. Great Titmouse.—A single bird on the coast at Tetney on Oct. 11th.

P. cæruleus. Blue Titmouse.—Much scarcer than usual. A few arrived on Sept. 8th and 10th, a good many on 20th, and again a few on Oct. 8th.

Troglodytes parvulus. Wren.—A good many Wrens arrived on the coast on Oct. 8th, and a few on 11th.

Motacilla lugubris. Pied Wagtail.—Dozens of Wagtails in the vicinity of the coast at Tetney on Sept. 12th, and again on Oct. 8th.

M. raii. Yellow Wagtail.—Many in the vicinity of the coast on Aug. 8th. On Sept. 1st a few more appeared, and on 5th scores of these Wagtails were present on the banks of the Tetney drains and creeks, but by the 8th most of them had departed.

Anthus pratensis. Meadow-Pipit. — Very large numbers of these birds were present on the coast on Aug. 25th and Sept. 5th and 12th, frequenting principally the sea-bank and "fitties."

A. obscurus. Rock-Pipit.—First arrived on Oct. 6th, and was quite abundant on 11th.

Muscicapa atricapilla. Pied Flycatcher.—The heaviest migration of Pied Flycatchers that I have ever witnessed took place during September, in two separate "rushes," which were at their height on 10th and 22nd respectively. The first bird appeared on Aug. 30th, and a few were always to be seen up to the 10th and 11th of September, when they were very abundant. On the 12th, however, all had departed, and until the 22nd I only saw occasional single birds, but on that day they were present in quite unusual numbers. They remained a very short time, as

on 24th I only saw three, and no more appeared during the autumn.

Hirundo rustica. Swallow.—On Sept. 2nd I noticed Swallows coming in from the sea from N.E., many of them alighting on the mud. Last Swallows were seen on Oct. 27th.

Ligurinus chloris. Greenfinch.—Large flocks of Greenfinches arrived on the coast on Oct. 6th, frequenting the reed-beds, hedges, and sea-bank.

Carduelis spinus. Siskin.—On Oct. 9th I shot a Siskin among the bushes of sea-buckthorn at Donna Nook.

Passer domesticus. House-Sparrow.—Very large flocks of Sparrows along the sea-bank at North Cotes and Marshchapel on Oct. 24th.

P. montanus. Tree-Sparrow.—One or two Tree-Sparrows on a hedge near Tetney Lock on Oct. 11th. On 24th I noticed a few among the flocks of House-Sparrows above mentioned, and on Nov. 15th a flock of about two hundred in a hedge near the sea at North Cotes.

Fringilla cœlebs. Chaffinch.—Many in the vicinity of the coast on Oct. 24th, and again on Nov. 13th; as usual, all male birds.

F. montifringilla. Brambling.—I shot a female Brambling at North Cotes on Sept. 19th. On Oct. 8th I saw another, also a female, and on 10th they were very numerous in all the hedges and thorn-bushes near the sea, all, without exception, being hen birds.

Linota flavirostris. Twite. The first small flock arrived at North Cotes on Oct. 18th, and very large numbers followed on the 24th.

Emberiza citrinella. Yellowhammer.—Hundreds of Yellowhammers appeared on the coast on Sept. 24th, and again on Oct. 24th.

E. schoeniclus. Reed-Bunting.—A few—all or almost all—females on the coast on Oct. 6th, and a considerable number on 16th.

Plectrophenax nivalis. Snow-Bunting.—Very scarce throughout the winter. I shot a fine old cock at North Cotes on the unusually early date of Sept. 17th, and I saw a couple of young birds on Nov. 10th.

Sturnus vulgaris. Starling.—By the 8th of August, Starlings were already very abundant near the coast and on the "fitties," and they continued to increase throughout the autumn, although I never saw them actually on passage.

Corvus monedula. Jackdaw.—A few Jackdaws were present among the large flocks of Rooks, passing west over Grainsby on Oct. 23rd.

C. corone. Carrion-Crow.—A few Crows on the coast on Oct. 6th were apparently coming in from the sea, and on the 24th I again noticed a good many on the shore and adjoining fields. Later on in the winter Carrion-Crows swarmed in the woods at roosting-time, and I frequently saw from one hundred to nearly one thousand in a flock outside some favourite covert.

C. cornix. Grey Crow.—I saw the first Grey Crow at Tetney on Sept. 30th, and three more passing N.W. on Oct. 8th, but the principal movement occurred on 24th, when these birds were passing inland to N.W. all day.

C. frugilegus. Rook.—A few straggling parties of Rooks passing inland to S.W. from midday till about 2 o'clock on Oct. 8th. On Oct. 20th a few going W. On Oct. 23rd and 24th large numbers also going W., on the latter day in continuous flocks until about 2.30 o'clock. On Nov. 13th many on the sands and fields near the sea; also flocks passing inland to S. till 2 o'clock.

Alauda arvensis. Sky-Lark. — The principal immigration took place from Oct. 6th to 10th, and a further movement occurred on 24th.

Otocorys alpestris. Shore-Lark.—On Oct. 8th I shot four Shore-Larks on the sands at North Cotes. All proved to be males.

Cypselus apus. Swift.—Swifts began to grow scarce about the middle of August. I saw two or three at Tetney Lock on Aug. 25th, and a single bird on Sept. 1st.

Alcedo ispida. Kingfisher. — I saw the first Kingfisher on Aug. 14th at Grainsby. On Sept. 2nd one on the coast at Saltfleet. Several at North Cotes and Tetney on Sept. 20th and Oct. 6th.

Asio accipitrinus. Short-eared Owl.—I flushed one of these Owls from the bottom of a ditch near the sea at North Cotes on Nov. 22nd.

Circus cyaneus. Hen-Harrier.—On Oct. 10th I saw two large Hawks, probably of this species, come in from the sea and pass away to S.

Haliaëtus albicilla. White-tailed Eagle.—An immature example of this species, which I saw at the shop of Mr. H. Kew, of Louth, was shot by a farmer at North Somercotes on Oct. 10th.

Accipiter nisus. Sparrow-Hawk.—A good many Sparrow-Hawks appeared in the vicinity of the coast on Nov. 10th and 15th.

Pernis apivorus. Honey-Buzzard.—A Honey-Buzzard, which I saw at Mr. Kew's shop, was shot by a coastguard at Donna Nook on Sept. 29th.

Falco aesalon. Merlin.—I saw a Merlin perched on an old hamper on the sands at North Cotes on Nov. 22nd.

F. tinnunculus. Kestrel.—Several Kestrels in the coast marshes on Nov. 15th, but this species has been scarcer than usual throughout the autumn.

Botaurus stellaris. Bittern.—A Bittern was shot at Tetney by one of the wildfowlers on Jan. 15th, 1903. I also heard of the occurrence of several other specimens in different parts of the county about this time.

Anser segetum. Bean-Goose.—A Bean-Goose was shot by a North Cotes wildfowler on Dec. 27th. It was alone when shot, and weighed $5\frac{1}{2}$ lb.

A. brachyrhynchus. Pink-footed Goose.—This was a great Wild Goose year. I saw the first flock—eighteen in number—on Sept. 13th, flying low along North Cotes sands. On Oct. 4th a flock of nearly two hundred Geese passed over Thoresby, and many other flocks were seen during the month. In November and December they were scarce, and I only saw one small flock on 12th of the latter month; but in January and February, 1903, they were very abundant, and flocks often numbering several hundreds were frequently seen.

Tadorna cornuta. Sheld-Duck.—A flock of about twenty Sheld-Ducks seen at North Cotes were probably home-bred birds, but the species was numerous on the Humber throughout the winter.

Anas boscas. Mallard.—An immense immigration of Ducks into the Humber took place on Nov. 30th and Dec. 1st, and large

numbers were killed by fowlers on the coast. During January, 1903, very large flocks of Ducks came inland, frequenting the great fields on the wolds. Indeed, I have never seen so many in the district before.

Spatula clypeata. Shoveler.—I saw a few Shovelers at Tetney at the end of August, and the keepers say that at least one pair bred there.

Nettion crecca. Teal.—A few at Tetney on Aug. 8th, and a good many on 15th.

Mareca penelope. Wigeon.—First seen at Grainthorpe Haven on Sept. 8th. Some large flocks passed over Tetney Lock, going S.W., on Jan. 7th, 1903.

Eidemia nigra. Scoter.—Much scarcer than usual. I noticed some small flocks on the sea off Donna Nook on Sept. 17th.

Columba palumbus. Wood-Pigeon.—Several flocks going W. over Grainsby on Nov. 5th. From Dec. 17th to Jan. 1st large flocks of Pigeons were passing W. over Grainsby daily, sometimes from morning to night, and this great immigration was also noticed by the North Cotes wildfowlers. Most of these Pigeons passed inland, few remaining in the marsh district.

Turtur communis. Turtle-Dove.—Turtle-Doves were very numerous until the latter part of August, but nearly all had left by Sept. 1st, and the last were seen on 20th.

Rallus aquaticus. Water-Rail.—First seen on the coast on Nov. 10th.

Otis tarda. Great Bustard.—On Dec. 8th I saw, at the shop of Mr. F. Jeffreys, at Grainsby, a freshly-killed Bustard, which had been sent in from Weelsby. This bird was a female, but I could obtain no further information about it. On 29th a second Great Bustard—also a female—was shot by a wildfowler on Tetney cow-marsh. It measured 31 in. in length, and weighed $7\frac{3}{4}$ lb.

Charadrius pluvialis. Golden Plover.—A few appeared at North Cotes on Oct. 10th, and a large flock on Nov. 10th, but the species was somewhat scarce throughout the winter.

Squatarola helvetica. Grey Plover.—Very scarce. I did not see one until Sept. 8th, but a few appeared on Oct. 9th.

Vanellus vulgaris. Peewit.—A very heavy immigration took place during October, the principal movements being on 9th and

10th, and again from 20th to 24th, the direction of flight being S.E. to N.W. A further passage took place on Nov. 12th and 13th, the direction of flight being E. to W.

Hæmatopus ostralegus. Sea-Pie.—Several flocks appeared on Grainthorpe sands on Sept. 2nd.

Scolopax rusticula. Woodcock. — A very poor Woodcock season. The first bird was seen at Grainsby on Oct. 2nd. On 29th I shot one on the sea-bank, and the principal flight probably took place about this date.

Gallinago coelestis. Snipe. — Extremely scarce throughout the whole season. I found a good many in the North Cotes drains on Dec. 11th.

G. gallinula. Jack-Snipe.—The first arrival took place on Oct. 6th, when I shot two couple near the coast at Tetney.

Tringa alpina. Dunlin.—A few small flocks appeared on North Cotes sands on Aug. 8th.

T. minuta. Little Stint.—I saw several small parties of Little Stints on Sept. 11th, and from that date until Oct. 6th a few of these small Waders were always present, frequenting fresh-water creeks near the coast.

T. subarquata. Curlew-Sandpiper.—On Sept. 2nd I shot an adult still retaining a good deal of the summer plumage from a small flock near Grainthorpe Haven. On Oct. 9th I saw a single bird on the side of Saltfleet Haven.

T. canutus. Knot.—On Sept. 2nd I noticed a few small flocks on North Cotes sands, but the first really large arrival took place on Nov. 13th, when some immense flocks appeared.

Calidris arenaria. Sanderling.—Very scarce; a few on the sands between Saltfleet and Grainthorpe on Sept. 2nd, and a good many at North Cotes on the 13th.

Machetes pugnax. Ruff. — I saw the first Ruff on Aug. 8th, and from that date throughout August and September I saw single birds or small parties not unfrequently. Lastly, a single Reeve at Tetney on Oct. 25th.

Totanus hypoleucus. Common Sandpiper. — A couple on Tetney Haven on Aug. 8th. Very abundant on 25th, and last seen on Sept. 20th.

T. ochropus. Green Sandpiper.—Very numerous throughout August, frequenting fresh-water creeks and drains near the coast, and many of the brooks inland.

T. calidris. Redshank.—Redshanks were abundant on Tetney fitties on Aug. 8th, but no doubt many of these were local birds. A considerable increase, however, took place on Sept. 8th.

T. fuscus. Spotted Redshank.—I saw a couple of these birds on Tetney Haven on Aug. 25th.

T. canescens. Greenshank.—Greenshanks were late in their appearance. I heard the calls of some passing over Grainsby at a great height on the afternoon of Aug. 26th, but could not see the birds. I saw one on the coast on 30th.

Limosa lapponica. Bar-tailed Godwit.—Scarce; I saw the first on Sept. 3rd, a few on 8th, and a good many on 17th.

Numenius arquata. Curlew.—Two or three Curlews on the coast on Aug. 8th. They were fairly numerous throughout the winter.

N. phaeopus. Whimbrel.—Very scarce; I saw the first on Aug. 8th.

Sterna fluviatilis. Common Tern.—A few of these Terns off Donna Nook on Sept. 2nd, amongst the much larger flocks of the next species. On Sept. 17th a great number of Terns appeared on the coast, and, though the majority were Arctic Terns, many belonged to this species.

S. macrura. Arctic Tern.—As usual, Arctic Terns were abundant during the autumn, particularly on Sept. 2nd and 17th.

Stercorarius pomatorhinus. Pomatorhine Skua.—Several of these Skuas, with a good many of the commoner *S. crepidatus*, flying about over the "fitties" and adjacent land at Tetney and North Cotes on Sept. 12th—a stormy day, with heavy squalls from the north. I also saw a single bird off Donna Nook on Sept. 17th.

S. crepidatus. Arctic Skua.—A single young bird at Donna Nook on Sept. 2nd. A considerable number at Tetney and North Cotes on Sept. 12th, and both old and young birds were quite numerous all along the coast on 17th.

Podiceps cristatus. Great Crested Grebe.—I saw one of these Grebes at Donna Nook on Sept. 2nd. It was diving close in to the shore.

FIELD NOTES (BEING A NATURALIST'S DIARY OF OBSERVATION AND REFLECTION).

BY EDMUND SELOUS.

1899.

(Concluded from p. 292.)

December 13th.—This morning, standing by a small willow-tree, my attention is attracted by a Hooded Crow, which, whilst flying, keeps uttering a series of very harsh, hoarse cries—"are-rr, are-rr, are-rr"—the intonation is much rougher and more unpleasant than that of Rooks. He does not fly right on, and so away, but keeps in approximately the same place, hovering about, and still continuing his clamour. I fancy I hear an answer to it from another Hooded Crow in the distance, and then, all at once, a number of Rooks fly up and join him—two small bands, I think, coming from opposite directions, and amalgamating, as they meet round him. I am not quite sure of this—they are there so all at once—but, anyhow, there must be from twenty to thirty Rooks who have come as at a recognized signal; and, having come, they all hover about in the air, over a space corresponding with a fair-sized meadow, the Crow making one of them, and still, at intervals, continuing to cry, the Rooks talking much less. Then, in some few minutes, all are gone, dispersed, again, over the country, nor do any go down where I can see them. What—if anything—is the meaning of this rendezvous? All I can imagine is that when the Rooks heard the repeated cries of the Hooded Crow, they imagined he had found something eatable, and therefore flew up to share in it. Seeing nothing, they hovered about, for a time, over a considerable space, on the look-out, and then gave it up and flew off. I can form no idea, however, of what it was that had excited the Crow, for excited he certainly seemed—it was a sudden burst of "are-ing." He did not go down anywhere, so that it can have had nothing to do with a

"find," and I feel sure, from the way he came up, and the place and distance at which he began to cry, that he had not seen me.

Quite a number of Moorhens are swimming in the little stream this afternoon, or feeding on the banks of it. One of the latter is very pugnacious. He runs at another from some distance with his head down and held straight in front of him, the beak almost touching the ground—like a bull—putting this other to flight—a swift, determined run made with the greatest resolution. Afterwards he swims across the stream into the reeds. Instantly there is a scuffle there; and then, pursued by him, another bird swims out, and almost immediately takes flight to the opposite bank. There is peace, now, for a time, but afterwards this same Moorhen, being again on the bank, makes his swift bull-like run first at one and then at another bird, driving them both away, one uttering a cry of distress. Again, a bird has been feeding, and is now walking off towards the stream. All at once, and *ex nihilo*, another one rushes swiftly after him from a considerable way off. The pursued bird takes to his wings, when the other does so too, keeping just at his tail, pursuing him very hotly and determinedly. It is always the same bellicose bird, I think, but cannot be quite sure. Moorhens are pugnacious, therefore, even in winter. Timid and wary they are, too, like other birds, the last perhaps in a higher degree, and, as with other birds, it is difficult when one sees them one thing, to think of them as the other. Whatever they are, they seem, whilst they are it, to be the genius of. They are little Perditas—but I cannot quite recall the passage. Two come now along the bank of the little streamlet, on the opposite side of which I am lying—some half-dozen paces off. Though I seem to be well concealed, as they get almost opposite to me they become suspicious. One retreats, not running, but with a quick step, his neck craned forward and held high, his feathers pressed against his body, so that his thinness and peculiar keel-like shape appears. He looks, now, much smaller as well as lankier than just before, his legs set more behind—prepared to run and fly at any moment. Was he ever a bold bird, ruffling and swelling out, running like a bull at another? I cannot believe it.

The other Moorhen remains for a few seconds at his ease, but

then becomes suspicious too, and retires in the same way. Beyond these two, and further inland, another one, after browsing a little, sits on the snow-decked grass, seeming to nestle there and make himself warm and comfortable. Rising then, he comes forward with a very peculiar gait—a sort of mincing half trot—lifting the feet up very high, and with great “springiness.” This curious motion, which seems to imitate that of a high-actioned horse, I have not observed before—at least, I do not remember it—in our own Moorhen; but I think I have remarked it, even in a more developed degree, in one of the Gallinules in the Zoological Society’s Gardens. But this may be a mere dream (the Gardens is a nightmare), one of those odd sensations of having seen a thing before, as though in another world. But whatever I may have seen once, I certainly see this Moorhen now, and so strangely does he look, that I think, at first, he must have hurt one or both of his feet. Now he sits down again, then rises and advances in the same way, till he enters the water just opposite me. Here he becomes suspicious, and swims fast away, with his tail flirled vigorously at each paddle. Then, again landing, he runs at a great pace, looking about half his former size—proving, if proof were needed, that his feet and legs are perfectly right.

Whilst watching the Moorhens, a Robin flies on to some water-weeds that lie upon the stream, and thence to the trunk of an alder-tree, where, for a second or two, he clings. It is easy to see how the tree-creeping habit may have originated. Most small, perching birds do occasionally—and some of them by no means clumsily—what the Tree-Creeper does always, and from tree-creeping—though not from the Tree-Creeper—the Woodpeckers have probably come into being.

A Dabchick comes up on the water now, but dives down again, as it were, *before* he comes up, a splash of water being all that I can see—the bird invisible. And now two of these little birds are sporting and ducking about in the water together, uttering from time to time a shrill, quavering note that sounds like—or something like—“queek, queek, queek, queek—queek, queek, queek, queek.” “‘*Queek,*’ pas ‘*whit,*’ Monsieur Fleurant. ‘Whit’! Ah, Monsieur Fleurant, c’est se moquer. Mettez, mettez ‘queek,’ s’il vous plaît.” They come along, these little queekers, till they are only about three—at last, perhaps, only

about two—paces from where I am, and “queek” from that distance. I keep hearing the little, tittering note, too, which I have attributed to them before. I have no doubt it is they, but they seem always to utter it when invisible amongst the reeds.

December 14th.—(A fine bright day, but very cold. A hard frost.) At creek, by the fallen tree, in the morning. “The bride has paced into the hall,” and a Moorhen along the bank—easy, elastic steps, head nodding and tail flirting in unison—nestles, then, on the grass, rises again, and steps along, as before—stands on one leg a little—puts it down—steps—draws it up again—glances about—inclined to preen feathers, but does not—nestles—a shoulder-glance—half “spies a danger”—rises and tiptoes out of sight. What a little bundle of caprices and apprehensions! But they all become her. “All her acts are queens.”

Now comes a “chack, chack” with great suddenness and energy, and then “chee-ee, chiroo,” both very sharp and high. Then one Moorhen chases another, flying and scudding through the water to land, having gained which the chased bird runs fiercely at a third that was feeding there, and pursues him all about. It is like that scene in ‘The Rivals’ where Sir Antony bullies his son, the son the servant, and so on. “Tis still the sport” in natural history, to see poor humanity aped. Really it is very humorous, the study—“teems with quiet fun,” as Gilbert says.

Again a Moorhen runs violently at an intruder—as he seems to consider him—on his territory, and chases him away. Another one nestles down amidst the snow and frost, fluttering his wings above his back, as a cabman might slap his arms across his chest on a frosty morning. For a few seconds there is a full, vibratory, vigorous flutter of both—equally and together—and then each is flapped separately, twice or thrice, before being folded. There are several more chases, and one bird keeps driving others all about, making sometimes quite a “*sauve qui peut*.” He starts, often, from a good distance off, and runs like a bull, as yesterday. Now, too, through the glasses, I can plainly see a Moorhen pecking at, snipping, holding in his bill, and then swallowing, the small, light, frosted blades of grass—“in the morning, in the morning, when the earth is fresh and dewy.” One is sitting on a tuft of bent and crumpled flags, half a foot above the water,

and pecks at weeds. Half a dozen or so are browsing over the meadow. Now the one upon the crumpled reeds nestles down upon them, softly and mously.

Though the flirtation of the tail is very habitual with Moorhens, though nine times out of ten, when you see them either on land or water, they are flirting it, still they do not *always* do so—"Nonnunquam dormitat bonus Homerus." "Non semper tendit arcum Apollo." One that I am watching is keeping his quite still, and one may see, sometimes, many together, browsing in this reposeful way. It can be a quiet, well-behaved tail enough, but let any kind of emotion, almost, possess the owner, and, heavens, how it flirts!

There is a Moorhen, now, preening and cleaning itself on the margin of the stream. It fans out the primary quills of each wing, whilst still keeping them pressed close to the sides, so that the wings make a little house for the tail, inside which it is both waggled and flirted, and so rubbed and polished by the quills. At the same time the whole body of the bird is wriggled, and the skin moves loosely upon it. The wings, too, now and again, brush down each side of the body alternately, whilst the beak keeps preening and making much of the feathers of the throat and neck.

There is a Snipe feeding with the Moorhens—that is to say, one or other of them is often browsing near him. He thrusts his long bill down amidst the muddy roots of grass-tufts in the shallow water, then works it rapidly up and down, withdraws it, seems to be enjoying something, thrusts it in again, and so on. He walks slowly and sedately through the water, then, on the grass, increases his pace, looking longer, lankier, and narrower than before. Now there are two feeding vigorously, always in the same way, the bill thrust down into the tufty, "patchily-in-shallow-water-standing grass," withdrawn, sometimes immediately, sometimes after a few workings about with it, making so many little nid-noddings of the head. The mandibles seem always working against each other—opened slightly and again closed—just like the Starlings; and *à propos* a Starling flies down now and feeds side by side with these two Snipes, and in much the same way, except that his head does not work up and down quite so constantly and methodically. They—the two Snipes—seem

getting something all the while, and sometimes the whole body seems to quiver with the satisfaction of it. It is a searching, probing, finding, and then gobbling down process. One of them brings up something out of the mud—something big, held at the end of the beak. At first I think it is a frog; but, no, it seems to be a lump of mud and grass-roots about the size of one—grown one. He bobs his head up and down with it—just as he has been doing all the time—raising it from the ground and bringing it down upon it again, as if to divide and search it. Each time it descends it is lost to me in the grass, and, after two or three bobs, the bill comes up without it. The superiority, as an implement, of a Snipe's bill to that of another bird—a Starling's, for instance—seems to me one of degree merely, not of kind. It is used in just the same way.

This reminds me of quite another way in which some people suppose it to be used, for I was asked by a countryman about here—one of the old yeoman class, so unhappily passing away—whether the Snipe, when it flew up, really raised itself on its beak, using this—so I understood him to mean—as a sort of jumping-pole to swing up from. I said I should not have thought that it ever did so, but that all I could be sure of was that sometimes it didn't—so he remained doubtful.

Besides the Starling there was a Chaffinch, at one time feeding with these two Snipes. What an incongruous trio! but I am often struck with the way in which quite different kinds of birds come together. The Chaffinch both hops and walks, but his hop is not springy, and, it seems, rather, a transition between the two modes of progression.

Squirrels are about, again, in the pine plantations this afternoon. It is fine and bright, certainly, but a hard frost and very cold. A Blackbird is hopping and picking about amongst the dead leaves. He pecks them up and throws them, with leaves and sticks, to one side or the other, shovels them, too—using both head and beak as the shovel—and gives an occasional scratch as well. Whilst thus clearing a space, he crouches right down on his breast, amongst the leaves, in a brooding attitude. Several Blackbirds are doing this now, but, having watched a cock one from quite near, and marked the exact spot, I wait till he has flown off, and then walk straight to it. The more or less

cleared space is circular, and almost as large as a saucer, with a new-laid dropping in it to leave no room for doubt. Carefully examining it, I find two little fresh green vegetable substances, some rabbit-dung—but only one pellet looks as if it had had a slight peck—a weevil about the size of a small fly, and another minute coleopterous insect. The weevil is at first either torpid or feigning death—probably the latter, as many weevils do (or appear to do) this—but he soon becomes active. This gives a hint as to the food of Blackbirds on cold, frosty days in mid-winter—by inference of other birds too, but not many are such burrowers.

"Chi, chi, chi, chi, chi, chi," as the Blue Tit says—for that is one of his notes. I see him now clinging to the trunk of a fir-tree, which is the first time I have since my last entry of it in October. He does not, however, either ascend or descend the trunk, as on that occasion, but, after clinging a moment, flies on to a bough. Others are hanging on the under sides of the fir-cones, pecking at them and at the fir-needles, often fluttering, on a little whirr of wings, just above a bunch of these, before disappearing amongst them. Long-tailed Tits, too, are hopping about in the top twigs of some tall slender oaks—the oaks in this fir-plantation are, like the firs, tall and slender—hanging head downwards from the twigs. A Robin flies to a large Scotch fir, and clings to the trunk; remains there a few seconds, then flies down to the ground near its base, from there flits up again and clings some two or three feet from the ground; then an encore, as if he had known what I wanted, and so flies off.

Hooded Crows seem to dig a little in the ground for food, as do Rooks, though nothing like to the same extent. They both walk and hop—as do Rooks—but they hop more than Rooks do. Several I am watching now, have, I am sure, hopped, where Rooks would have walked. These Crows are funny birds. When one flies away from another, this latter, two or three times, lowers his head to the ground, and up again, each time that he lowers it uttering a low, deep note, like "croo, croo." When rejoined by his companion, he again makes his two or three bows, but I now hear no note, so that it must either have been absent or lower. Now when this bird, after being again left alone, rose and flew to some trees, uttering his "crar, crar," a number of

Rooks rose, too, from all about, and, after circling and flapping around a little, flew to a plantation, where, shortly, the Crow flew also. It was not quite the same thing as yesterday. therefore, since the Crow was not immediately joined in the air, when he cried out. Still it much resembled this, and the one case gives point to the other. The Rooks all rose as at a signal, and flew off to somewhere near to where the Crow had flown, and there, shortly, he went too. The whole gave the idea of some curious, oblique sort of relation between the two species, but what it was, or what it is, I know not. Yesterday I thought that the Rooks flew towards the Crow's cries, thinking he had found something. But now, since this was not the case here, and the two incidents are so much alike, "I do let loose mine opinion, hold it no longer."

The Golden-crested Wren's note is a little needley one, like the Blue Tit's "zee, zee, zee, zee, zee," only thinner, a still slenderer needle of sound.

December 15th.—A dark, misty day—frosty withal, but not "kindly"—darkest and mistiest and frostiest, I think, in this clump of alders, growing amidst the muddy water of a muddy swamp. It ought not to be a frost to-day—it does not look like one—but it is. Frosty powder is on the litter of dropped twig and crumpled leaf that lies dead on the dead, dank earth: frost beads the upper stalks and sorrowfully drooping heads of the dilapidated reeds: beads, too, the thin threads of gossamer that, even now, loop them about—shaking still-ly with them in the still, sad air—whilst crumbs of it lie loose in the grooved channel of each long, narrow leaf, now brown and bare and brittle. It is all frost, and the black water in which everything is growing oozes under thin ribs of frosted ice. But it is a frost that saddens, not that braces and exhilarates. It seems born out of the mists that hang over all—a dead, dank sodden world, till a little spot of crimson life glows through the alders, and the Robin has perched on a bough. It was death, coldness, darkness before—now it is life, warmth, and colour.

December 16th.—It is very cold at 7 a.m.; trees and everything covered with white hoar-frost. Notwithstanding this there are numerous Squirrels about in the plantation, and actively feeding. They feed on the fir-cones, which should be a banquet

for them throughout the winter, as I said before. There is the saw-note of the Great Tit amongst the pines, now, as in the spring, but not quite so loud, and it does not last so long. Also the Coal-Tit's spring note, which is very much the same.

I counted twenty-three Moorhens to-day, browsing together, over the meadow by the little stream. One of them rushed violently from a considerable distance, at a group of three, putting them all to flight. A swift, determined bull-headed rush, as before described—the head held down and forward, in a straight line with the body.

December 17th.—At the creek this morning. A pair of Dabchicks play about for a little, in each other's company. Their note, at first, is a quiet "chu-chu-chu-chu-chu-chu." Then side by side, and with their heads close together, they burst suddenly forth with "cheelee, leelee, leelee, leelee, leelee, leelee." It is as if they said, "Shall we? Well then—*now* then," and started. This is the Dabchick's contentment note. You know what it means directly. It expresses satisfaction with what has already been accomplished, present complacency, and a robust determination to continue to walk—or swim—in the plain path of duty and pleasure. What a pretty little scene! And how grand to be watching it from a few yards off with not a Dabchick the wiser! You little shy, cool-dipping, reed-haunting things—so dapper and circumspect! What then! Have I "torn out the heart of your mystery"? No doubt about what you say for the future. I have it here. Yes, and I know what it means, and how you say it.

December 18th.—At the creek, to-day, there is the most extraordinary note, on the bank just opposite, either in some alder trees or amongst the grass at their base. I now see a Snipe on the ground, near the alders, and to him I must attribute this strange sound. There are two feeding—and another I see in the shallow water, just off the bank. One of the two—but an alder now hides them—utters a hoarse, grating, lengthened cry, like "chaccha-a-a-a-a" (a as in "air"), and this is more than twelve times repeated. The other one, whilst in full view, and quite near, suddenly disappears in a mysterious way. He does not seem to move, but is all at once gone, and I search for him in vain, with the glasses. Now, however, I see him—just where he

was, but I had mistaken him for a piece of horse-dung. I beg his pardon. I see this bird feeding, quite plainly, both in the meadow, a little way from the stream, and just off the bank, wading in the water. He searches the ground with his long bill, as before described, and keeps working the two mandibles together. As a rule they do not open much, which suggests that he gets small things only—but once they do, rather more, and I see the cleft between them all the way up. No doubt but the Snipe's bill is an instrument of high efficiency. What strikes me, however, is that the Starling seems to do just as well with his.

Now comes another most remarkable sound, uttered by a Snipe, but not by this one. It is hoarse and cat-like, and is repeated twenty-six times (!) close together, at the very least—then continues, again, after a little pause. I could never have imagined—at least could never have been prepared for—such a sound as this. Unfortunately, I could not actually see the bird uttering it, as he had just walked behind one of the clumps of alders. These bird-cries are most remarkable. An instrument that would accurately reproduce those of the Moorhen, Snipe, and Dabchick would make a sensation in any drawing-room, and a fortune on the Aquarium stage.

A Moorhen is now taking a bath—not afloat like a Duck, but standing just off the bank, where the water is not above a few inches deep. She ducks her head, then, jerking it up, lets the water run down her neck, and over her back, flirting it about with her wings and tail. At the end of the bath she gives both her wings a violent shake above her back, lasting for some seconds, and then proceeds to preen herself carefully—a pretty toilette scene, as pretty as “Gipsy toilette,” that very pretty picture. A characteristic action and attitude is the one wing extended and pointed backwards towards the ground, the corresponding leg being similarly extended and raised against it, suggesting that the claws are passed down the primary quills, as being out of comfortable reach of the beak, but whether this is really the case I am not quite sure. This bird walked from some way off, in the meadow, straight to the bank, evidently with the purpose of taking a bath in her mind, and now, having carried it out, she walks back, and continues to browse.

Three more Moorhens come, at intervals after this, to the bank, and bathe in the same way, just off it, standing in a few inches of water. Not one of them has bathed right in the water, like a Duck, and this, I think, if it is habitual, is an interesting trait, for surely it looks back to a time when the bird was not so aquatic as it is now—when it was more a wader and less a swimmer. It would then have feared to bathe out of its depth, and, though it has no need to fear it now, yet the old habit remains. Probably the last things to change in a gradual change of life would be those which were least affected by such a change. Bathing has nothing to do with the getting of food, or with sexual activities—with hunger or with love—and as long as the water-bird did not get a long way from the land, it might be almost as conveniently performed on the one element as the other. Not quite, however, and therefore, as the course of life became more and more aquatic, this and almost every other habit would, at last, become modified. Now the Coot very closely resembles the Moorhen, but it is fin-footed, it dives better and far more habitually, and it bathes afloat on the water. In all this we can see a longer course of weaning from terrestrial life than the latter bird has undergone.

I counted to-day twenty-five Moorhens—as a minimum—browsing together—sometimes close together—over the meadowland. There were frequent panics, when either all or considerable numbers of them would fly to the water, beginning to come again, sometimes, almost as soon as they had got there. It was very interesting to see how some birds, after looking all about, prepared, at any moment, to follow their companions, would yet resist this impulse to flight, concluding, evidently, that there was no real ground of alarm. Here we have individuality and character showing themselves more in some birds than in others. Once the whole flock were put up by a Heron, who, however, only came sailing leisurely by, and went down not far off; and again by some other bird that I missed, and whose hoarse cry in the air I did not recognize.

Squirrels about in the pine-plantations to-day. “Quobba-wobba-wobba-wobba” is the class of remark they indulge in. It is much milder to-day, certainly, but, having seen them running over snow, in the hardest weather, I doubt if this has much to do with it. They were about on the 12th, for instance.

THE AMSTERDAM AQUARIUM.

BY GRAHAM RENSHAW, M.B.

(PLATE VI.)

FEW of the zoological collections of the Continent are so interesting as the valuable series of living creatures exhibited in the Gardens of the Society "Natura Artis Magistra" at Amsterdam. Founded in 1837, the grounds have been repeatedly extended, until at last the final addition granted by the Municipal Council in 1877 completed the great enterprise. The land was ceded to the Society on condition that it should be used as the site of an aquarium, in which higher zoological teaching should be given partly at the expense of the Society. The splendid building which was duly erected will bear comparison with any rival institution. It was opened on December 2nd, 1882. An attempt is made in this paper to describe its contents as they appeared at the time of my visit, although to be fully appreciated this fine aquarium requires personal inspection.

On ascending the broad marble staircase the visitor enters a spacious hall, which, instead of being decorated with paintings, has its walls pierced by the plate-glass windows which form the fronts of the various tanks. On one side are ranged the marine exhibits, while the other is devoted to the fresh-water series.

Commencing with the salt-water fish, the first tank was very fully stocked with Blennies (*Zoarces viviparus*), quaint fish somewhat resembling the Loach of British streams. These odd creatures, of all sizes and ages, lay on the sand of their tank in palpitating crowds, or crept over the rocks in a most uncanny fashion, their long compressed bodies recalling the tails of Efts or Salamanders. The odd expressionless faces of these Blennies were very comical as they stolidly stared unwinkingly through the glass.

The second tank contained huge Codfish (*Gadus morrhua*), which swam slowly to and fro ; great Weevers (*Trachinus draco*)—one of the few really poisonous fishes known—lay in the sand, their striped bodies half buried in the yellow carpeting of the tank ; and Grey Gurnard (*Trigla gurnardus*), whose marbled sides were beautifully spotted with silver, stalked about on their elongated fin-rays as on so many spidery legs.

The third tank was filled with glittering Herring (*Clupea harengus*) ; while a huge shoal of Smelts (*Osmerus eperlanus*) seemed to make the tank itself quiver as their teeming numbers rippled to and fro, like a piece of streaming seaweed entangled in a strong current. On the sand beneath, in contrast to so much beauty, there scuttled a number of fussy King-Crabs (*Limulus polyphemus*), their mailed bodies recalling those of Armadillos, whilst their long tails resembled the handles of frying-pans. One unfortunate Crab lay sprawling helplessly on its back, like a turned Turtle, whilst its gill-leaflets pulsed in rhythmical sequence, as one might turn over the pages of a book.

In the fifth tank were some large Codfish, and also some Sapphirine Gurnard (*Trigla hirundo*). In spite of their odd shape these Gurnard are very beautiful fish. Their carmine bodies and enormous blue gill-fins besprinkled with spots remind the entomologist of some huge grasshopper or locust, rather than of any denizen of the sea ; moreover, the edges of the gill-fins are dazzling with a superb iridescence, which recalls the sheeny hues of a *morpho* butterfly.

Further on in this interesting series was a small Shark (*Mustelus vulgaris*)—the “Smooth Hound” of British fishermen. The curious gill-slits pulsed with every respiration of the fish, like ventilators regulated by a hidden mechanism—as indeed they really are. A number of Dogfish (*Scyllium canicula*) also swam to and fro, diligently inspecting everything with an intelligent scrutiny very different from the dull apathetic gaze of Cod and Mullet, Haddock and Ling.

The most interesting of all the marine tanks, however, was that which contained the Sea-Horses (*Hippocampus antiquorum*). There were over forty of these curious little creatures on exhibition. Purplish black, like a dried raisin, or dressed in a livery of

greyish brown, the Sea-Horses swam slowly about, propelled by the quivering action of the dorsal fin. Some lay anchored on the bottom, their tails curled round the seaweed, and the intelligent little horse-heads swaying this way and that in a charming manner (*cf.* Plate VI.). These weird-looking fish, with their truncated snouts and crested heads, bore a remarkable resemblance to the knight or rook in a set of chessmen, whilst their odd appearance was heightened by their deeply sculptured bodies, and their tails prehensile, like that of a Chameleon. Some of the Sea-Horses wandered over the seaweeds like cattle in a meadow; others rose or sank quietly, their buoyant bodies moving gently in the still water. The Dutch keeper informed me that these fish had come from Bordeaux, and did not seem to think that they would do well in the cold weather.

The remaining marine tanks contained Sea-anemones—a subaqueous flower garden; Sea-Scorpions (*Cottus scorpius*), with immense heads armed with spines; also more King-Crabs and Herring.

The large and well-lighted room at the end of the aquarium hall was mainly devoted to a living collection of tropical fish, and I went systematically round all the tanks, examining the contents of each. Here were to be seen some Japanese Gold-fish (*Carassius auratus* var. *japonicus*), each of which was adorned with three tails. Here also the gorgeous Paradise Fish (*Polyacanthus viridiauratus*) from China, richly striped with ultramarine-blue and bice-green. These Paradise Fish had bred in the aquarium, and were the largest I have ever seen. The North American Chætodon (*Mesogonistius chætodon*) and the Striped Sunfish (*Apomotis obesus*) were exhibited close by, as were also examples of the armour-clad Callichthys (*Callichthys asper*) from Surinam, whose gaping mouths were fringed with long barbules, and whose roughened bodies were enmailed with greenish scales. The Chameleon Fish (*Heros* sp.)—dull coloured enough at the time of my visit—was also on view. There was also an example of the Indian Perch (*Anabas scandens*), which is alleged to climb trees. The gem of the tropical collection, however, was the lovely Speckled Callichthys (*Callichthys punctatus*), a fish of exquisitely beautiful shape, and golden green in colour, mottled with greenish black. These more delicate species were all

carefully kept warm, the heat of the water being maintained at between 70° and 80° F.

Besides the fish, the end hall contained a considerable number of amphibians—Frogs and Newts. Here one saw the Red-bellied Newt (*Molge pyrrhogastra*) of Central Europe, whose carmine abdomen contrasted brilliantly with the dull black upper parts. There were also several Olms (*Proteus anguineus*)—that strange blind Eft from the caverns of Carniola, whose pinkish-white body betokens that it lives in perpetual darkness. The Amsterdam Olms had been exposed to the light, and were gradually becoming greyish. The collection also included eight Mexican Salamanders of huge size—the “Axolotl” of naturalists. All these eight individuals were black, white Axolotls being very rare. However, in the next tank there reposed no fewer than eight white Axolotls, lying huddled up together, their long pinky-white bodies suggesting a number of Ferrets in a basket. The pulsation of the blood in the gills of these albinos was easily discernible. Both black and white Axolotls are the tadpole stage of the *Amblystoma tigrinum*, and there were a couple of magnificent *Amblystomæ* in the Aquarium; their richly mottled skins well merited the name “*tigrinum*,” bestowed on them by scientists.

Returning by the long hall first entered, the survey of the Aquarium was completed by an examination of the fresh-water fish in the series of tanks facing the marine collection.

Amongst the fish in the fresh-water series were crowds of Black Bass (*Micropterus salmonides*), in flourishing condition; the strange Perch-Pike (*Lucioperca sandra*), a fine fish whose appearance combines the characters of both Perch and Pike; and a Common Carp (*Cyprinus carpio*), of enormous dimensions.

A very interesting exhibit was a tank of young Sturgeons (*Acipenser sturio*), about three feet long from the tip of the snout to the end of the tail. Above these Royal fish swam a teeming shoal of Rainbow Trout (*Salmo irideus*).

Last of all, one may mention the huge Purple-black Salamander (*Sieboldia maxima*), from Japan. This species once made the Amsterdam Zoo famous, for as long ago as 1860 one of these hideous Salamanders was brought safely alive to the

gardens—a scientific treasure, if not a beautiful one, being probably the first ever sent over.

The above is but a short account of the inmates of this truly splendid Aquarium. The visitor might profitably spend hours, and the naturalist days, if not weeks, in noting the habits of the commercial food fishes, and others so excellently displayed. Enough, however, has been said to indicate how rich a collection has been accumulated in the Dutch capital, and how splendid a contribution was made to Science in the founding of the Amsterdam Aquarium.

NOTES AND QUERIES.

MAMMALIA.

A British Example of the Mouse-coloured Bat.—On going through the Bats at the Cambridge Museum recently, I came across an undoubted specimen of *Myotis myotis*, the Mouse-coloured Bat, labelled "Girton, 1888. H. Gadow." Dr. Gadow tells me that it was taken at Girton, and brought to him alive by one of his lady students. There can therefore be no doubt that this is a genuine wild-taken specimen of this species, although probably brought over from the Continent with some plants or other produce. This species is only known in England from some examples taken in the British Museum grounds in Bloomsbury prior to 1835. The actual specimens have been lost sight of, but it is tolerably certain that an example now in the Museum and labelled "England" was one of the original specimens. It has since then been twice recorded, but in both cases the record has been contradicted, so that the Cambridge specimen is the first thoroughly authentic British example. The species is extremely abundant on the Continent, and from its large size very conspicuous, so that if it usually occurred in these islands it would not be likely to be overlooked, and we are inclined to think that the specimen under consideration must have owed its transportation to some artificial means.—J. LEWIS BONHOTE (Fen Ditton Hall, Cambridge).

Albino Hedgehog in Yorkshire.—On Aug. 8th I had brought to me a very beautiful albino Hedgehog, which had been captured at Goathland, Yorks, on Aug. 1st. It was a very pure white upon the spines and hair, the eyes, nails, and naked parts of the skin being of a delicate pink colour. It was alive when brought to me, but, owing to lack of proper nourishment, was in a dying condition, and only lived a few hours after it came into my possession. — W. J. CLARKE (44, Huntriss Row, Scarborough).

Rare Cetaceans on the Yorkshire Coast.—On Aug. 19th my attention was drawn by Sir Robert Lloyd Patterson to the fact that a Beluga or White Whale was disporting itself very close inshore in the South Bay at Scarborough. I was unfortunately too late to see it

myself, as it had headed away to sea, but it was noticed both upon the same and also upon the following day by several boatmen and others who were out in the Bay. When last seen it was about two miles north-east of the Castle Hill, and rose close to a boatload of anglers, who were considerably alarmed at its close proximity. Sir Robert Lloyd Patterson very kindly gave me the following account of what he had seen :—

“ Understanding that you are the Recorder of the local Natural History Society, I put in this form, for reference, the substance of what I told you to-day relative to the appearance of a large cetacean in the Bay here this day shortly after noon. I was at the south end of the Spa promenade on the sea front very shortly after high water, the sea still breaking against the wall, when I noticed what at the first glance I took to be a breaking wave ; but almost instantly I saw that it was a good-sized animal which, but for its colour, which was about as white as this paper, I should have taken to be a Rorqual of eighteen to twenty feet long. It was swimming north parallel to, and about 120 yards distant from, the Spa wall. I walked along, and saw it rise several times again—perhaps eight or ten times altogether—when it headed out to the eastward, increasing its distance from the shore, and was finally lost to view. It had no dorsal fin that I could see, and I have not a shadow of doubt but that it was a Beluga, or White Whale, a most interesting and, I take it, quite unique occurrence. Unless albinism occurs among the cetaceans—a thing I never heard of—it cannot have been anything else but a Beluga. I leave it to you to communicate the foregoing, on my authority, to such scientific journals as you think proper.”—R. LLOYD PATTERSON.

“ P.S.—The animal was so white and so large that one could see its white form *beneath* the surface before it rose above it. It was swimming in a very leisurely manner, not more than five miles an hour.”

I think I am correct in saying that this most interesting occurrence is the first recorded for the Yorkshire coast, and only the second for England, and it was extremely fortunate that the appearance should have been witnessed by such a competent authority.

On Aug. 30th, while on Filey Brig at the portion known as the “ Emperor's Bath,” where there is twenty feet of water close up to the rock edge, my attention was attracted by three tall black objects appearing and disappearing on the surface of the water, which was somewhat turbulent. As they drew nearer, I was able to see that they were the dorsal fins of three large cetaceans, and they eventually approached to within fifty yards of where I was standing, and I was able clearly to see that they were Grampuses. They were swimming

slowly and with great regularity, all rising together, and descending at the same time. They raised their heads high out of the water, so that the under jaw and the distinctive white patch behind the eye were distinctly visible. Once or twice they descended, and remained below water for a considerable time, but eventually, after having been within a few yards of me for upwards of half an hour, continued their journey southward, and were finally lost to view amidst the broken water, into which they fearlessly entered. A Filey man, who came along at the time, told me that he had seen three similar "fish" on the previous day, which he said "were barking like dogs." The specimens which I saw uttered no sound.—W. J. CLARKE (44, Huntriss Row, Scarborough).

AVES.

Bluethroat near Eastbourne.—On Sept. 20th, when walking near Eastbourne on some rough shingle with bushes scattered about it, I saw a specimen of the Bluethroat (*Cyanecula suecica*). I am well acquainted with the bird in Norfolk, and told it at once by its tail. Mr. A. H. Streeten, who has also shot the bird in Norfolk, was with me, and recognized it directly I pointed it out. We were at one time within ten yards of it, so we can hardly have been mistaken. The occurrence seems specially noticeable, as, when I left Norfolk on the 18th, no Bluethroats had been taken there this season.—E. C. ARNOLD (Blackwater House, Eastbourne College).

"An Unknown Warbler in Oxfordshire."—When residing in Westmoreland some years ago, I used to notice a bird resembling a Willow-Wren, but rather larger and with darker plumage on the back than any I had previously observed of this species. Being unable to identify it, I referred to Bewick, and came to the conclusion that the specimen under observation was what is locally known as a "Strawsmear." Bewick does not describe this bird very minutely, but says that it arrives early in April, begins to sing at once, and continues singing till August. I did not make any notes of my observations, but I believe this bird has an eye-streak. Is it possible that the Warbler seen by your correspondent, Mr. Warde Fowler, is a "Strawsmear"?—R. H. RAMSBOTHAM (The Hall, Meole Brace, Shrewsbury).

White Wagtail at Balbriggan, Co. Dublin.—I saw a male White Wagtail (*Motacilla alba*) on Sept. 4th at the Delvin River, two miles from Balbriggan. Its broad white forehead and grey back first attracted my notice as it flew about from stone to stone in the bed of the little river, which is the boundary between the counties of Dublin

and Meath. It then flew up on the telegraph-wire over the railway viaduct, when I had a good opportunity of noting the diamond-shaped black mark on the throat and breast, and the very long tail. The picture in Morris's 'British Birds' very aptly represents the bird as I saw it at the Delvin. I had never seen one in Ireland before, and but once in England, near Clifton Suspension Bridge. Mr. Ussher, in his 'Birds of Ireland,' has some interesting records of the occurrence of this bird, and Mr. R. M. Barrington, in his 'Migration of Birds,' notices its occurrence at the Blackwater Bank and Codling Lightships; he also received a fine specimen in 1900 from Inishtrahull. — CHARLES W. BENSON.

[In these pages Mr. Robert Warren has recorded the presence of this species—the sixth year in succession—on the island of Bartragh, in Killala Bay (*cf. ante*, p. 190).—ED.]

A Second Brood of Starlings.—A year or two ago I sent you a note (Zool. 1897, p. 334) as to a pair of Starlings having reared a second brood in the roof of an adjoining house. That brood came to an untimely end through having been frightened out of their nest by workmen before they were sufficiently mature. I have for some time been aware that a second brood was in progress this autumn in the roof of the same house. (Were they the progeny of the same parents as the former brood?) On Sept. 27th five healthy and vigorous young birds were "grubbing" on the lawn, practically strong enough to take care of themselves, but receiving occasional help from their parents.—R. M'LACHLAN (Lewisham, London).

Nesting of the Grey Crow in Suffolk.—Referring to Col. Butler's note (*ante*, p. 350), I may mention that the late Mr. N. Fenwick Hele, in the second edition of his 'Notes or Jottings about Aldeburgh' (p. 77), records the nesting of the Royston or Hooded Crow at Hazlewood, near Aldeburgh, in 1872 and 1873; and not long ago, when arranging the eggs in the Ipswich Museum, Mr. Woolnough and I found an egg marked in Mr. Hele's handwriting, "Royston, Hazlewood," among them.—JULIAN G. TUCK (Tostock Rectory, Bury St. Edmunds).

Cuckoo calling in September in Italy.—In the last number of 'The Zoologist' (p. 350), Mr. J. W. Payne alludes to the fact that Sir Conan Doyle, in 'Rodney Stone,' makes the Cuckoo call in September. Allow me charitably to suggest that Sir Conan had heard the bird in the South of Europe, for I have just had a postcard from my friend Mr. B. W. Henderson, Fellow of Exeter College, Oxford, dated Bibbiena, Sept. 6th, in which he writes:—"Heard the Cuckoo yesterday in first-

class voice among walnut forests on my way from Vallombrosa here—a ten-hour tramp over the mountains with a knapsack.” He adds that the heat was excessive even for Italy, and that it had not rained for nearly two months.—W. WARDE FOWLER (Kingham, Chipping Norton).

Cuckoo (*Cuculus canorus*) in Scotland; calling in July.—Observations made in Braemar during the last two summers have some bearing on Mr. J. W. Payne's note (*ante*, p. 351). In 1902 Cuckoos continued calling “loud and oft” up to July 9th; on that date one was seen and heard in Glen Lui at an altitude of 1300–1350 ft. In the evenings the calling continued till about 10 p.m., and it frequently wakened me as early in the morning as 2.30 a.m. In 1903 it was quite different, only one bird being heard on July 6th—a faint and wavering call.—HUGH BOYD WATT (3, Victoria Drive, Glasgow).

Wigeon breeding in Ireland: a Correction.—In ‘The Zoologist’ for 1901 (p. 269), a note appeared from me announcing the discovery of the Wigeon breeding in Ireland. I am afraid that the evidence for identification was not sufficiently complete, as Mr. Ussher relied entirely on the down taken from the nests to identify the species. Mr. Noble, who has made a study of Ducks and down, says that the down is not sufficient, and the down of Wigeon and Shoveler vary so much in type and resemble each other so closely that it is impossible to distinguish between the two. As Shovelers were in the majority on the occasion referred to, I think the question of Wigeon breeding in Ireland not sufficiently established.—JOHN COTTNEY (Hillsborough, Co. Down, Ireland).

[A similar disclaimer from Mr. Patterson appears in the last issue of ‘The Irish Naturalist.’ He writes:—“There is little difference between the down of some Shovelers and the down of some Wigeon, but there is always a difference in the small feathers found among the down. In the Wigeon these small feathers are *pure white* with light grey bases; in the Shoveler they are *pale buff* with dark brown centres. This is stated on the authority of Mr. Heatly Noble, who has made a special study of Duck's eggs and down.”—ED.]

Stock-Dove (*Columba oenas*) in the Isle of Man.—The note of Mr. F. Graves on this subject (*ante*, p. 316) recalls to my memory the fact that in May, 1896, Mr. W. E. Teschemaker and I found a nest of this bird, containing two young ones, in a hole near the cliff-top between Sea-field (St. Anne's) and Derbyhaven. The young Doves were kept in a wicker cage, but did not take kindly to captivity, judging from the

quaint remark made in the following year by the Manx servant who attended to them: "It is not tamer they are getting, but wilder," and soon afterwards they were set at liberty. In August of the present year I saw a pair of Stock-Doves near St. Anne's Head. With reference to the Tree-Sparrow, I may observe that my friend Mr. J. C. Bacon informs me he has known of its nesting in the garden at Seafield for several years past.—T. H. NELSON (The Cliffe, Redcar).

Black-winged Pratincole in Sussex.—On July 18th last a Black-winged Pratincole (*Glareola melanoptera*, Nordmann) was shot near Rye, and, having been sent to St. Leonards for preservation, was brought in the flesh for my inspection. It was carefully sexed, and proved to be a female. This forms the second recorded occurrence of *G. melanoptera* in Britain (cf. Dr. N. F. Ticehurst, Bull. B. O. Club, xiii. p. 78, June 30th, 1903. The bird recorded by Dr. Ticehurst was a male, and somewhat brighter than the present specimen). For obvious reasons I am precluded from giving fuller particulars—a circumstance I much deplore, as the occurrence of the species so far westward is very noteworthy. *G. melanoptera* differs from *G. pratincola* chiefly in having the under wing-coverts and axillaries black instead of chestnut. Mr. H. E. Dresser gives the summer range as "South-east Europe, in Russia north to about $56\frac{1}{2}^{\circ}$ N. lat. ; . . . Asia Minor and Asia east to the Altai Mountains" ('Manual of Palearctic Birds,' ii. p. 730). W. RUSKIN BUTTERFIELD (St. Leonards-on-Sea).

Little Stint (*Tringa minuta*) inland in Cheshire.—A sand-spit at the mouth of a little brook which flows into the mere at Great Budworth often serves as a halting-place for wading birds on passage. Here, on Aug. 29th, I found a Little Stint feeding at the water's edge. The bird, as is the wont of its species, was extremely tame, and during the half-hour I spent with it allowed me to repeatedly approach within five paces. That distance, however, marked the limit of its confidence, and it evaded any attempt at a nearer approach by flying out over the mere, only to return to the spit again and resume its feeding a few yards further away. When on the wing it constantly uttered a soft, low, trisyllabic note. Before taking flight it sometimes retreated, wading belly-deep in the water, and once or twice it swam for a few inches. At such close quarters I could see its black bill and legs and the details of its plumage very clearly, and was even able to make out its hind toes when it ran along the sand. It was a young bird in autumn dress, having white feathers on the scapulars, and an ill-defined and hardly perceptible buffish band on the breast; the rest of the under parts were white. The wing-coverts and the long secondaries

were dark brown, each feather being broadly edged with buff. The white forehead and cheeks and the broad white eyebrows showed up the greyish-brown crown, and a streak of the same colour which extended from the lores to behind each eye.—CHAS. OLDHAM (Knutsford).

Black Tern (*Hydrochelidon nigra*) in Cheshire. — On Sept. 6th Mr. F. Brownsword and I watched a Black Tern for some time at Budworth Mere, near Northwich. Now and then the bird would rest on one or other of the posts which project above the water, but it spent most of its time flying in a buoyant, desultory fashion up and down the mere, dropping diagonally at frequent intervals to snatch food from the surface of the water, or just above it. It was a bird in immature plumage, the forehead, collar, and entire under parts being white, the mantle not uniformly slate-grey, but marked, especially along the carpal joint, with grey of a darker shade.—CHAS. OLDHAM (Knutsford).

Occurrence of the Sooty Tern in Suffolk.—At the latter end of March or beginning of April, 1900, Mr. J. Nunn and Mr. G. Mortimer, jun., found a bird lying dead on the heathland between Thetford and Brandon, in the parish of Santon Downham. The bird was found on some bracken, about half a mile from the river Little Ouse and the highway between Thetford and Brandon, and a quarter of a mile from Thetford Warren, which is in the administrative county of Norfolk. Mr. Nunn, who lives at Little Lodge Farm, sent the bird to Mr. F. Rix, of Thetford, who stuffed it, and informed the owner it was a "Black Tern." It remained at the farmhouse until September of this year, when Mr. W. A. Dutt, of Lowestoft, and the writer called and saw the bird. Neither of us, though confident it was a rarity, was able accurately to determine the species. I therefore took a written description of it, and on my return to Norwich quickly identified it as a Sooty Tern (*Sterna fuliginosa*). This was subsequently confirmed by Mr. T. Southwell. The bird is an adult, in good plumage, and well stuffed. Mr. F. Rix, who stuffed it, informs me that the bird was very decomposed when taken to him early in April, 1900. It must have been dead at least five or six days, and he had great difficulty in skinning and mounting it. The breast-bone was "almost like a razor." There was nothing in the crop or bowels but dark clayey moisture, and no marks of shot or any wounds upon the skin. He came to the conclusion that it had died from exhaustion. March, 1900, was a month of uniformly low temperature, but there appear to have been no heavy gales from the south-east or south-west to account for the presence of a Sooty Tern so far from its usual haunts. This record is the fourth only for the British Isles, and the seventh for all Europe. The British

occurrences were at Tutbury, near Burton-on-Trent, in 1852; near Wallingford, Berks, in 1869; and near Bath, in 1885. The records for the Continent (both lists are taken from Mr. Howard Saunders's 'Manual') are—one near Magdeburg, one near Verdun on June 15th, 1854, and one captured in a Trout-net in Piedmont on Oct. 28th, 1862. This is consequently a fresh species for either the Suffolk or Norfolk lists.—W. G. CLARKE (Norwich).

[In our last volume (1902, p. 355) Mr. Chas. Oldham recorded the occurrence of this bird in Lancashire. The specimen was exhibited at the meeting of the British Ornithologists' Club last November.—ED.]

Sabine's Gull near Scarborough.—On Sept. 5th a very fine fully adult female Sabine's Gull (*Xema sabinii*), in perfect winter plumage, was shot a little to the south of Scarborough, and was brought to me in the flesh. On the 20th a good many small migrants were moving upon the coast, both departing and arriving. Amongst the latter I noticed, and examined closely with the glasses at a short distance, a Black Redstart, a female or a young male. The bird was still at the same place on the 22nd. On the 21st a second adult Sabine's Gull was shot in Filey Bay. The bird, which had not moulted, still retained the black head characteristic of the breeding season. I also had the opportunity of examining this bird in the flesh. During the first week of September a considerable movement of Greenshanks took place along the coast, and I saw five or six specimens which had been shot. W. J. CLARKE (44, Huntriss Row, Scarborough).

Sabine's Gull in Yorkshire.—On Sept. 3rd, by the merest chance, I obtained an adult Sabine's Gull (*Xema sabinii*) from a sea-bird shooter who had just come into Bridlington Harbour with his spoils. When walking on the North Pier before breakfast, I saw the boat coming in, and, turning my binoculars on it, noticed the Gull lying on one of the seats. Thinking that a tiny Gull with a dark grey head must be Sabine's Gull, I lost no time in getting down to the landing-stage, and found that my recognition was quite correct. My bid for the bird, which the shooter called a "Swallow," was accepted, and, as we were leaving Bridlington the following day, I was able to bring it home in the flesh and set it up here. It has made a very good specimen, and is an interesting addition to our collection. The bird is a female, in full summer plumage, with the exception of a few white feathers on the chin and throat, and dark markings on the inner webs of four tail-feathers; the under parts are pure white without any roseate tint. As it was hardly cold when I obtained it, I noticed that the yellow on the

tip of the bill was very bright, the inside of the mouth orange-red, like that of a young Cuckoo, and the legs and feet pale brownish grey. Sabine's Gull in immature plumage has either been more frequently obtained or more often recognized of late years than formerly, but in the second edition of his 'Manual,' Mr. Saunders was only able to enumerate the occurrence of six adults. One of these was shot in Bridlington Bay in August, 1872 (Zool. 1872, p. 3316).—JULIAN G. TUCK (Tostock Rectory, Bury St. Edmunds).

Sea-bird Slaughter. — What I wrote on this subject in 'The Zoologist' (*ante*, p. 354) was fully confirmed by the events of the first few days in September. A resident in Bridlington told me that one shooter obtained twelve dozen birds in one day, and I think it is no exaggeration to say that for the first few days of September the number of birds shot (chiefly Terns and Kittiwakes) averaged over a hundred a day. Mr. Oxley Grabham has pointed out (Zool. 1901, p. 228) that there is a market for them at sixpence each, and this statement exactly agrees with information given to me on very good authority. A wounded Tern fluttering in the water acts as a decoy, and brings others up to the boat, or a dead bird thrown up and allowed to fall into the sea is used in the same way. There are two classes of shooters from which the sea-birds suffer: the shooter for the millinery market referred to above, and the shooter who fires for his own amusement at anything from a downy Guillemot upwards, and often does not even care to pick up his birds. I believe there is now somewhat stringent legal protection afforded to the sea-birds on the east coast of the United States, and a pretty sharp look-out is kept on any boat from which a gun is fired. While there are no easier birds to shoot than the Terns and "Kitties," there are no birds more difficult to shoot without being detected, as the killing is done on the open water, and when there is light enough to shoot by, the boat can be watched. If only Yorkshire naturalists could see their way to agitate either for a close-time still more extended, or the absolute protection of certain birds all the year round, they might feel certain of the support and co-operation of their brethren elsewhere, for the Terns which pass down the Yorkshire coast in late summer and early autumn have more than a local interest. There can be little doubt that they are the identical birds protected at considerable cost and with much trouble at their breeding-grounds on the Farne Islands.—JULIAN G. TUCK (Tostock Rectory, Bury St. Edmunds).

ANIMAL PSYCHOLOGY.

Can and do Birds Reason? Do Men also? (Zool. *ante*, p. 328).—May I endeavour to reply shortly to the above question? "Instinct"—as a term—always seems to me to be a refuge of the destitute. "Intelligence," I take it, is an active principle; "influence" a passive principle. "Instinct" and "inherent impulse" are vague and unexplainable expressions. So is "prompting each individual" vague and unsatisfying. But "environment" is the better expression. This does away with another vague expression, *viz.* "chance." "Intelligence" seems to me, if credited to birds, &c., to be a misnomer. How would it do to say instead, "forcefulness from outside environments"? In other words, "environing circumstances" to each and all. I take it this is the true explanation of many natural-history phenomena. But these environing circumstances vary in many and diffuse directions, and therefore the results vary. So in nest-building; so in habits; so in migrations and dispersals; so in the whole history of birds and the whole animal kingdom. The pressure of environing circumstances acts—acts. It is not will-power in the bird or animal, but the direct action of the surrounding circumstances, which may well include the example or tuition of the parents, where that is exercised; of foster-parents also. In how far does heredity or transmitted brain-energy come in? Perhaps the most helpless of all infants is the human infant, and the helplessness continues longer. That is probably because the human infant is of far greater complex nature than any of the lower animals, and in consequence knowledge takes long to develop. But even man is not proof against environing circumstances. Possibly angels may be. Another word often used is "intuition" (*op. cit.* p. 332). What dictionary successfully defines it? I do not mean defines it to our uses, but I mean defines it correctly as a scientific expression. The writer I am replying to, or trying to reply to, *admits* his belief in "the possession of instinct by birds" (p. 332), and says, "We unanimously place (it) to their credit." Do we? What is instinct? Instinct we cannot scientifically define; therefore, instinct is an unknown quantity. We may accept the descriptive phrase—*automaton*—in lack of a better, only, however, because of the similarities or the differences caused by environment. — J. A. HARVIE-BROWN (Dunipace, Larbert, Stirlingshire, N.B.).

[We quite agree with Mr. Harvie-Brown on the extremely vague conception appertaining to the term "instinct." It is perhaps most clearly understood as a theological proposition, used by a school of thought advocating an essential difference between man and other

animals. Thus Paley defines an instinct as "a propensity, prior to experience, and independent of instruction." Naturalists have also been swayed by a similar predilection. Blumenbach went so far as to state: "Man then alone is destitute of what are called *instincts*." He also maintained that "instinct always remains the same, and is not advanced by cultivation, nor is it smaller or weaker in the young animal than in the adult." Reason, on the contrary, he held, could be compared to a developing germ. Waitz, the anthropologist, urged that "we must not, however, estimate too lightly what animals really learn from experience. The mysterious word 'instinct' conceals, in the psychical life of animals, more intellectuality and less mechanism than is usually assumed." But he perhaps goes too far when he states:—"Just as the civilized man conquers the savage, so does the latter overpower the brute, not so much by physical as by mental force. He uses their instincts in a variety of modes to deceive them, imitates their sounds, catches them by baits, and hunts each species according to its peculiar habits." But the last sentence at least would apply to most animals in their necessitarian war upon one another. It is possible that when using the term "instinct" we are expressing the limit of our own reason. The word has become inseparable to our language, and is used in a loose way, as when we speak of a hasty judgment or action as "instinctive," or describe one with whom we do not agree as "an unreasonable man."—ED.]

NOTICES OF NEW BOOKS.

Turner on Birds : a Short and Succinct History of the Principal Birds noticed by Pliny and Aristotle, first published by Doctor WILLIAM TURNER, 1544. Edited, &c., by A. H. EVANS, M.A. Cambridge : at the University Press.

PATRISTIC zoology is a charming and interesting subject, particularly when we give the early Fathers fair consideration—that is, to estimate their writings as in advance of the knowledge of their time, and not to compare them too strictly with the science of to-day. The late Rev. H. A. Macpherson has given a short appreciation of Turner as an ornithologist in these pages (1901, p. 376), and with our appetites thus whetted we can the better enjoy the fuller information contained in this volume.

Turner lived in an age when theology was considered the queen of the sciences. Polemical writings on this much hackneyed subject formed the larger portion of his intellectual occupation, as befitted one who had absolutely sat at the feet of Ridley and Latimer, though he preferred quoting Aristotle from the Latin translation of Gaza, the learned papist, who had served under two Popes. Thus natural history formed, even at this time, a meeting-ground for theological doctrinaires, as well as for Mr. Morley's "neutral man of the world." In connection with this translation, Mr. Evans makes a very apposite remark which might well find a place in the "Hibbert Journal": "Exact transcription of a text was considered by no means necessary in those days; consequently we find many observations and explanations inserted in the text of Aristotle and Pliny which had no place in the original."

Like our own illustrious Gilbert White's leaning to a theory of the hibernation of Swallows, so did Turner find it impossible to quite break away from the mythical procreation of the Bernicle Goose. Both sought concurrent testimony, and Turner, dissatisfied with the belief of all the longshore-men of his own

country, and even doubting the testimony of Gyraldus, the historian, relates that he took council of a certain man, whose upright conduct he had often proved, "a theologian by profession and an Irishman by birth, Octavian by name, whether he thought Gyraldus worthy of belief in this affair, who, taking oath upon the very Gospel which he taught, answered that what Gyraldus had reported of the generation of this bird was absolutely true, and that with his own eyes he had beholden young, as yet but rudely formed, and also handled them," &c. This statement should find a welcome by Mr. Tegetmeier, who has for so long been drenched with similar testimony relating to the more than questionable proceeding of the Adder swallowing its young.

It is surprising how much actual observation and frequent acute criticism is contained in this small work, "written in a space of less than two months," by this sorely vexed divine; at one time imprisoned for preaching without a license; again fleeing his country to escape the importunities of other divines during the reign of Queen Mary; and even under Elizabeth, as dean and rector, suspended for nonconformity. Is it presumptuous to imagine that many of these trials might have been avoided, and the knowledge of ornithology very greatly advanced, had Turner been able to quench his dogmatic fire in the still pure stream of nature? For he writes as an original observer, though sometimes he gives what is perhaps a sample of controversial style in other subjects, as, when advocating that Aristotle's *Spinus* is the Greenfinch, he feels that some may probably object to this identification, and rejoins: "I should like the man who thus objects to me to know," &c. But enough is said on this subject; evidently Turner was a naturalist at heart, but intellectually dominated by a passion for theology.

We thank Mr. Evans for giving us a delightful little volume, which should be read, and then certainly treasured, by not ornithologists alone. There is a literary impression on every page that will charm a competent book-lover, and we hope the Syndics of the Cambridge University Press may see their way to publish further contributions to a knowledge of patristic zoology.

A Monograph of the Tsetse-Flies (Genus Glossina, Westw.), based on the Collection in the British Museum. By ERNEST EDWARD AUSTEN; with a Chapter on Mouth-parts, by H. J. HANSEN, Ph.D. Printed by order of the Trustees of the British Museum.

THIS monograph is devoted to seven species of insects, which represent a genus that has proved a curse to the development of South and Central Africa; was sufficient to cause the ruin of the early Portuguese expeditions in the sixteenth and seventeenth centuries; and wrecked an early Boer trek in 1836 which was migrating from British influence towards Delagoa Bay. Donkeys have been credited with an immunity from the attacks of these flies, and many an expedition has been organised with Donkey transport, with a prospective defiance of the Tsetse and an almost certain bait for Lions. It will thus be seen, that this fly is an enemy of the first importance to be dealt with in the industrial development of a country, which it is now a misnomer to call the "Dark Continent."

The first real contribution to a scientific knowledge of the destructive powers of these flies was made by Col. Bruce, who proved that the deaths of horses and cattle caused by Tsetse were due to the introduction into the blood of the victims of a minute parasite, the *Trypanosoma brucei*, a discovery afterwards confirmed by similar observations made in South America and Algeria. Castellani has also discovered a *Trypanosoma* in the cerebro-spinal fluid of nearly seventy per cent. of the vast holocaust of natives who have recently succumbed to "sleeping-sickness."

In order that the subject should be made entomologically applicable, the Director and Trustees of our National Museum entrusted Mr. Austen, who is well known as a dipterologist, with the task of preparing a monograph of the genus. This he has done in a very thorough manner, and has added a bibliographical list of many books in African literature which refer to these insects. The seven species are also fully and accurately described, and beautifully illustrated by coloured plates. Dr. Hansen, of Copenhagen, has also contributed a valuable paper on "The Mouth-parts of *Glossina* and *Stomoxys*."





A.

Young of Ring-Dove Hybrid
(*C. palumbus* × *C. domestica*) × *C. irida*.

B.

Blue Rock (*C. irida*).

C.

Ring-Dove Hybrid
C. palumbus × *C. domestica*.